for an inward bending application. In embodiment, the hardcoat layer **104** is only applied on the interior facing surface **105** (not the exterior facing surface **103**) for an inward bending application.

[0038] FIG. **9** is a schematic cross-sectional view illustration of a protective cover layer **100** including an intermediate polymer adhesion layer **108** in accordance with an embodiment. In an embodiment, the polymer adhesion layer **108** is located between the hardcoat layer **104** and the transparent support substrate **102**. The polymer adhesion layer may be 1-5 μm thick, for example. The polymer adhesion layer **108** may be optically transparent and may function to promote adhesion of the hardcoat layer **104**, which may have greater adhesion to the polymer adhesion layer **108** than to the material forming the transparent support substrate **102**. In the embodiment illustrated in FIG. **10**, the polymer adhesion layer **108** may surround the transparent support substrate **102**. The hardcoat layer **104** may also surround the polymer adhesion layer **108**. Referring to FIG. **11**, in an embodiment, the one or more lateral edges **101** of the transparent support substrate **102** may be tapered.

[0039] Referring now to FIGS. **12**A-**12**B schematic isometric view illustrations of an electronic device **1200** are provided in accordance with embodiments. FIGS. **13** is a schematic cross-sectional side view illustration of an electronic device **1200** in accordance with an embodiment. In particular, the electronic device **1200** includes a display panel **150** and protective cover layer **100** over the display panel **150**. The protective cover layer **100** may be any of the protective cover layers **100** described herein. The display panel **150** and protective cover layer **100** may be curved, flexible, conformable and/or foldable. FIG. **12**A illustrates an outward bending application, while FIG. **12**B illustrates an inward bending application. In an embodiment, the display panel **150** and protective cover layer **100** are capable of both outward and inward bending. In an embodiment, the protective cover layer **100** flexes with the flexible display panel **150** and includes a transparent support substrate **102** and a hardcoat layer **104** covering an exterior facing surface **103** of the transparent support substrate **102**. In an embodiment, the flexible display panel is foldable, and the protective cover layer folds with the foldable display panel.

[0040] Referring to FIG. **13**, in an embodiment, the hardcoat layer **104** of the protective cover layer **100** may define an exterior surface of the electronic device **1200**. For example, the outer (exterior facing) surface **107** may define the exterior surface of the electronic device **1200**. In an embodiment and anti-smudge coating, such as an oleophobic coating may be applied to an external surface of the hardcoat layer **104**. In an embodiment, a touch screen is located between the display panel **150** and the protective cover layer **100**. A space **1250** may be included in the electronic device **1200** housing **1210** to group various components such as a processer, memory, battery, wireless transceiver/receiver etc. for operation of the electronic device. As shown in FIGS. **12**A-**12**B, housing **1210** may additionally include openings for controls **1220**, port **1230**, etc.

[0041] In utilizing the various aspects of the embodiments, it would become apparent to one skilled in the art that combinations or variations of the above embodiments are possible for forming a curved, flexible, and/or conformable display with protective cover layer. Embodiments may be implemented in a variety of electronic devices including non-portable and portable devices, including wearable devices. Exemplary electronic devices include a communication device (e.g., mobile phone, smart phone, smart watch, wearable device), a multi-media device (e.g., MP3 player, TV, radio), a portable or handheld computer (e.g., tablet, netbook, laptop), a desktop computer, an All-In-One desktop, a peripheral device, a television, or any other system or device adaptable to the inclusion of a protective cover layer in accordance with embodiments. Although the embodiments have been described in language specific to structural features and/or methodological acts, it is to be understood that the appended claims are not necessarily limited to the specific features or acts described. The specific features and acts disclosed are instead to be understood as embodiments of the claims useful for illustration.

What is claimed is:

1. An electronic device comprising:

a display panel; and

a protective cover layer over the display panel, wherein the protective cover layer includes a transparent support substrate and a hardcoat layer covering an exterior facing surface of the transparent support substrate.

2. The electronic device of claim **1**, wherein the hardcoat layer defines an exterior surface of the electronic device.

3. The electronic device of claim **1**, further comprising a touch screen between the display panel and the protective cover.

4. The electronic device of claim **1**, wherein the hardcoat layer is characterized by a lower elastic modulus than the transparent support substrate.

5. The electronic device of claim **4**, wherein the hardcoat layer has a thickness range of 1-200 μm and the transparent support substrate has a thickness less than 150 μm.

6. The electronic device of claim **4**, wherein the hardcoat layer has an elastic modulus range of 1 GPa-100 GPa.

7. The electronic device of claim **4**, wherein the hardcoat layer includes a polymer matrix.

8. The electronic device of claim **7**, wherein the polymer matrix is a silica acrylate polymer.

9. The electronic device of claim **7**, wherein the hardcoat layer is characterized by a graded elastic modulus that is lower nearest the transparent support substrate and higher nearest an outer surface of the hardcoat layer.

10. The electronic device of claim **9**, wherein the hardcoat layer includes a particle filler within the polymer matrix, and a particle filler concentration is higher nearest the transparent support substrate and lower nearest the outer surface of the hardcoat layer.

11. The electronic device of claim **4**, wherein the hardcoat layer is on a surface of the transparent support substrate characterized by an area roughness (Ra) of 0.5 nm-10 nm, and an exterior facing surface of the hardcoat layer is characterized by a greater area roughness than the surface of the transparent support substrate on which the hardcoat layer is located.

12. The electronic device of claim **4**, wherein the hardcoat layer is formed on both the exterior facing surface and an opposite interior facing surface of the transparent support substrate.

13. The electronic device of claim **12**, wherein the hardcoat layer wraps around one or more lateral edges of the transparent support substrate.